Situation Report: Tulane National Primate Research Center (TNPRC) Incident

Situation Summary

- Two macaques at Tulane's National Primate Research Center (TNPRC) were originally reported to have been infected with the bacteria Burkholderia pseudomallei (the cause of Melioidosis). One animal was euthanized on Nov. 26 and the remaining animal has recovered. A third macaque has recently tested positive and is now being monitored.
- *According to the CDC Burkholderia Pseudomallei is a bacterium endemic to Southeast Asia and Northern Australia, and is typically found in contaminated water and soil. It is spread through direct contact with the contaminated source.

*Source: CDC http://www.cdc.gov/melioidosis/

- A USDA employee has tested positive for antibodies to Burkholderia Pseudomallei. Further investigation is being done to find out if, when, and where the person was exposed to Burkholderia Pseudomallei. The employee was discharged from the hospital Sunday February 8, 2015. The person's travel history does include a visit to a region that may have provided an opportunity for exposure. Federal and state agencies are aggressively trying to determine if the illness was related to the facility visit or past travel.

- All Select Agent Research at TNPRC has been suspended.

Incident Objectives

1	**Investigation process - On Campus: To identify, isolate, remediate and prevent further transmission of BP on campus grounds.**
Status	• CDC is currently investigating measures to put into place to limit further exposure to Burkholderia pseudomallei.
Sampling Objectives:	
1.1	**To conduct serological sampling to determine potential parameters of transmission exposure.**
Status	• Serum was collected on February 10, 2015, from 17 individuals (16-St. Tammany, 1-Atlanta) • Risk questionnaires were administered to all who gave blood, collecting

	information about previous exposures, travel, health issues and activates while at the facility. • APHIS Patient has been released from hospital and continues to receive treatment.
1.2	**To conduct air sampling to determine potential of aerosolized transmission.**
Status	• Air samples were collected from both the South and North Campuses, and these samples were delivered to CDC for testing. • Results are estimated to take 1 to 2 weeks once sent to the lab
1.3	**To conduct soil sampling within the cages to validate spread of BP in cage-soil.**
Status	• EPA collected 2 soil samples from the parking lot where vehicles have been used in the cages were parked. Swab samples from inside of these vehicles were also taken during this sampling. • Tulane personnel with oversight from EPA collected a total of 5 samples from the two pens which housed the infected primates on February 11, 2015. • One surface soil sample was collected from pen R24. This pen has a mostly gravel floor so only one sample was collected. • Four samples were collected in pen G12. Two (4 point composite) surface soil samples were collected and two grab samples from a depth of approximately 20 inches were collected. • All samples collected were shipped out with to the CDC laboratory in Atlanta. • Results are estimated to take 1 to 2 weeks once sent to the lab
1.4	**To conduct soil sampling outside the cages to determine if Burkholderia pseudomallei has spread beyond enclosures**
Status	• Tulane sampling team collected a total of 35 soil samples on February 10, 2015. The samples were shipped along with 3 air samples to the CDC lab in Atlanta • The locations included the areas surrounding the two cages where the infected primates were kept as well as several locations in storm water ditches adjacent to the cages. • Tulane personnel with EPA oversight collected two soil samples from a parking lot on the North Campus used by vehicles which routinely travel between the two campuses on February 12, 2015.

	• Results are estimated to take 1 to 2 weeks once sent to the lab
1.5	**To conduct water sampling around the compound and at discharge points to determine if BP is growing in water discharges.**
Status	• 13 Water samples were collected and sent to CDC for analysis on February 9, 2015. • A water sample was collected from the "Lift Station" on the North Campus. • Results are estimated to take 1 to 2 weeks once sent to the lab
Remediation Objectives:	
1.6	**To conduct remediation of enclosures where infected animals were - or are - located.**
Status	• EPA will work with Tulane on a decontamination plan for pens (utilizing results of serology to better define plan) and enclosures
1.7	**To conduct remediation outside the cages based on soil sampling results.**
Status	• EPA will work with Tulane on a decontamination plan for pens (utilizing results of serology to better define plan) and enclosures
1.8	**To identify potential mitigation activities should air and/or water samples come back positive.**
Status	
2	**Surrounding Area - Off Campus: To conduct risk assessment(s) within a meaningful vicinity outside the compound to ascertain need for further sampling wildlife, livestock, and other potential at-risk animals.**
2.1	**To conduct risk survey of animals in the area and determine whether these animals require further testing.**
Status	• USDA: Samples were taken from higher risk primates on February 10, 2015 (43 samples taken) • CDC received the 43 samples taken for the primates from Tulane on February 11, 2015
2.2	**To utilize findings from the investigative process to determine need for further mitigation activities outside the compound.**
Status	• Additional CDC and NIOSH personnel have arrived. • NIOSH will handle all occupational health issues • CDC will handle all of the infectious disease epidemiology issues.
3	**Public Communications**

3.1	**To formalize JIC members under CDC level**
Status	• JIC has been formalized
3.2	**To develop Frequently Asked Questions document in readiness for public dissemination.**
Status	• In progress

Actions to date

IC Group Meeting- No meeting schedules at this time.

CDC

- 2 Select Agent inspectors and NIOSH personnel conducted investigations and interviews. The team completed a thorough review of all protocols and standard operating procedures at TNPRC, and have reviewed video footage.
- CDC infectious Disease Epidemiology will investigate if any broader public health impacts exist.
- CDC sent protocols for shipping to DHH, and serological testing of high risk individuals were taken on February 11, 2015.
- Select Agents Investigation provided follow-up interviews with 10 Tulane staff.
- All B. Pseudomallei inventory was audited and found to be accurate with the facility numbers.
- CDC PIO Monitoring press coverage and responding to queries
- Workgroup Update
    - Supported the identification and coordination of representatives to the Science Technical Working Group.
- Safety Update
    - CDC/NIOSH provided updates to federal safety plan and submission to Tulane for review by safety officer. Safety Plan was finalized and Tulane biosafety officer has been designated as the Safety Officer in the plan.
- Animal Investigation
    - Discussions with USDA and other partners regarding sampling plan sites.
    - CDC organized an 11 am CDT call with participation of the Tulane laboratory scientist, TNPRC management, CDC (Alex Hoffmaster and his team, Henry Walke), USDA, and LA including the State Health Officer, State Epidemiologist, and State Veterinarian. The call discussed the approach regarding interpretation of laboratory results.
    - CDC received 43 sera from Tulane on 2/11.
    - Discussions with USDA and other partners regarding sampling plan sites.
    - Began CDC lab analysis of the 43 sera from Tulane received on 2/11.
- Human Investigation
    - Participated with interagency discussion regarding risk levels and testing needs. General consensus reached. FAQ related to sample collection, storage and confidentiality.
    - Developed script to communicate testing options with those possibly exposed and provided to State Epi for contacting and informing participants from 2/10 sampling event. Follow up will request participants to select testing or banking of their samples.
    - Obtained access to risk surveys of workers and in progress of reviewing.
    - CDC received 1 human serum specimen from Emory on 2/11.

  - Reviewed risk surveys of Tulane workers. Identified that 9 workers are at low risk, with none found to be at moderate or high risk. All individuals claim to be using appropriate PPE other than clinical lab that grew bacteria in open area.
  - Met with Tulane staff to communicate options for serum testing. Separate meetings were provided for two separate risk groups.
  - Ran IHA on NHP sera and inspector serum. Results expected by Friday 2/13.
- Environmental Investigation
  - CDC received Soil and air samples received from EPA and Tulane on 2/11.
  - Discussions with EPA regarding testing sites and plan regarding decontamination if positive tests.
  - Processed 35 soil samples and started incubation in selective broth.
  - Transferred 6 air filters to GA public health for them to process with biowatch protocol.
  - Received new lab equipment to troubleshoot filtration issues with analysis of 13 water samples received on 2/10. Lab analysis will be conducted on Friday 2/13.
- Select Agents Investigation
  - *B. pseudomallei* inventory stock audit completed. Inventory is accurate and current.
  - Four of seven persons of interest by DSAT were interviewed today, including one individual who is no longer employed by TNPRC. Three of these individuals are in the process of demonstrating their donning and doffing procedures to DSAT inspectors at this time.
  - Review of a small portion of video on the entrances of the select agent laboratory in Building 5 shows various types of breaches in biosafety rules.
  - Demonstrations of PPE management observed by select agent inspectors show two consistent areas of risk:
    - Employees fail to tie their gowns in the back, allowing the gowns to flap, exposing the scrub layer underneath
    - The type of foot covers used in the lab are cumbersome to remove, increasing the risk that the scrubs underneath them could become contaminated during the doffing procedure
  - Until recently (January 2015) protocols in Building 5 involving Bp didn't require a shower out. Therefore, effective doffing technique was critical in preventing contamination of the scrub layer under the PPE used in the lab. Since the scrubs weren't changed, any contamination during doffing could be carried elsewhere on the campus.
  - Two of the seven individuals of interest have duties involving the checking of infected animals in the laboratories, and the feeding of monkeys in the colony. Since the monkeys are fed by hand spreading the food, it is conceivable that an individual could contaminate the monkey food via this route.
  - One of the seven individuals of interest (not one of the two individuals mentioned in the previous bullet) had on two previous occasions had been counselled for PPE infractions (NIOSH record review).
- Communications
  - CDC PIO continues to monitor press coverage and respond to queries.
- Other
  - Demobilized two staff, Jason McDonald and LT James Gooch.

<u>USDA</u>

- Collected samples from 43 primates within the facility on February 10, 2015.
- Currently working on a future plan to capture rats and cats for testing

<u>EPA</u>

- Tulane samplers with oversight from EPA Contractors collected 13 water samples from various locations on the South Campus and shipped to the CDC laboratory in Atlanta.
- Daily air samples collected from locations around the South Campus and have been shipped to CDC Atlanta.
- Soil samples have been collected from 35 locations outside of the cages on the South Campus and shipped to CDC.
- February 11, 2015, Tulane personnel with oversight from EPA collected a total of 5 samples from the two pens which housed the infected primates.
- One surface soil sample was collected from pen R24. This pen has a mostly gravel floor so only one sample was collected on February 11, 2015.
- Four samples were collected in pen G12. Two (4 point composite) surface soil samples were collected and two grab samples from a depth of approximately 20 inches were collected on February 11, 2015.
- Tulane personnel with EPA oversight collected two soil samples on February 12, 2015, from a parking lot on the North Campus used by vehicles which routinely travel between the two campuses.
- Swab samples were collected from two of the vehicles.
- A water sample was collected from the "Lift Station" on the North Campus.
- Three air samples were collected. Two of the samples were from the South Campus and one sample was located at the North Campus.
- All samples will be shipped February 12, 2015 to the CDC laboratory in Atlanta. This will conclude the sampling effort this week. EPA personnel will demob from the incident tomorrow.

OPH

- Attending daily UCG meetings at the St. Tammany EOC to obtain visibility on multi-agency response activities;
- Participating in TNPRC conference calls to offer epidemiologic opinion;
- Serving as liaison between CDC subject matter experts and the State Health Officer;
- Serving as liaison between subject matter experts at Tulane and the state response personnel.
- ID Epi staff will contact individuals whose blood was collected to determine preference for immediate testing or banking of samples.
- ID Epi staff will directly communicate test results to individuals who opt for immediate testing in order to protect the confidentiality of health information.

LDAF

- LDAF assigned Foreign Animal Disease/Emerging Disease Incident (FAD/EDI) case number by USDA to participate in Tulane National Primate Research Center (TNPRC) investigation of Burkholderia pseudomallei (BP) laboratory breach
- 2 LDAF personnel TB tested, medically screened, and fit tested for PPE in preparation for site visit to Tulane
- 2 LDAF personnel were part of initial site visit investigation of TNPRC on Jan 22, 2015
- LDAF obtained testing protocols for environmental soil and water from CDC and NVSL in preparation for possible environmental sampling
- 17 LDAF personnel fit tested and medically screened to assist in environmental sampling or to oversee testing of primates

- LDAF personnel part of second site visit to Tulane to tour breeding colony and waste water sources on Feb 5, 2015
- LDAF personnel participating in daily Unified Command Group (UCG) Meeting and conference calls
- LDAF worked with USDA to develop Vehicle Cleaning & Disinfection Plan
- LDAF working with USDA Center for Epidemiology and Animal Health (CEAH) on risk of B. pseudomallei spread to livestock and aquaculture from Tulane
- 2 LDAF personnel tested by DHH for possible exposure to BP
- LDAF participating in UCG Scientific Advisory Committee to develop action plan when tests results are received-air, soil, water, human, monkey

LDWF

- LDAF assigned the State Wildlife Veterinarian to help with develop protocols dealing with local wildlife that might have been around the research facility.

Public Information

- Saturday February 7, 2015 a press conference was held regarding the incident.

Acronyms

Bpm-Burkholderia pseudomallei

CDC-Centers for Disease Control and Prevention

EPA-Environmental Protection Agency

IC- Incident Command

LDEQ- Louisiana Department of Environmental Quality

TNPRC- Tulane National Primate Research Center

UCG- Unified Command Group

USDA-United States Department of Agriculture